Verrucous Hyperplasia in a Continuous Denture Wearer

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Abstract
Denture induced verrucous hyperplasia is a rare clinical entity, which is soft, slow growing, long-term progressive soft tissue lesion and difficult to define. The etiology of Oral verrucous hyperplasia remains still unclear. Tobacco use does not seem to have a significant influence on the appearance of Oral verrucous hyperplasia. These lesions may occur both in smokers and non-smokers. The purpose of the article is to present a case of denture induced verrucous hyperplasia in a patient who was continuously wearing denture for the past one year. The main reason behind this is entrapment of food debris and other substances beneath the denture which has become a source of continuous irritation which in turn caused verrucous hyperplasia. Verrucous hyperplasia which in turn not managed properly can lead to verrucous carcinoma.

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1. Introduction

The oral mucosa is subject to a variety of injuries as a result of wearing dentures. These may be manifested as Traumatic ulcer, generalized inflammation, inflammatory hyperplasia, papillary hyperplasia and Angular cheilitis (Budtz-Jorgensen E et al., 1981). Among all these manifestations one of the rarest manifestation is verrucous hyperplasia. Oral verrucous hyperplasia is a premalignant lesion that may transform into an oral cancer. Verrucous hyperplasia is a histopathological entity, which shows considerable clinical and histological resemblance to verrucous carcinoma. This was first described by Shear and Pindborg in 1980 and was differentiated from verrucous carcinoma (Shear M et al., 1980). They separated these entities based on lack of invasive growth that is entirely superficial to adjacent normal epithelium in verrucous hyperplasia. Hansen in 1985 described proliferative verrucous leukoplakia a type of non-homogeneous leukoplakia which is irreversible, slow growing with highest potential of malignant transformation and resistant to treatment (Hansen et al., 1985). It is a clinical term and histopathologically it may show simple hyperkeratotic lesion similar to verrucous hyperplasia, verrucous carcinoma or well differentiated squamous cell carcinoma.

Case Report

We report a case of a 77 years old female who came to our oral and maxillofacial surgery opd with a chief complaint of a painful growth in the palate. She had no deleterious habits. The patient was wearing a complete denture for past 3 years and she did not remove it for the past 1 year. The patient has a past history of stroke and hypertension and was not under regular medication. Intra-oral examination revealed multiple polyps like growths seen on right and left postero-lateral slope of the hard palate which is irregular in shape & tender on palpation (fig1.1). The overlying mucosal color looks the same as normal adjacent mucosa. Extra-oral examination revealed an enlarged left submandibular lymph node which was mobile and not tender on palpation. Provisional diagnosis was given as irritational fibroma. Complete hemogram was done in which all the values were in the normal range. Further an incisional biopsy was planned. Incisional biopsy
was performed from the left postero lateral slope of the hard palate and the tissue was sent for histopathological examination. Histopathological Sections showed a fragment of squamous mucosa with scanty subjacent adipose tissue. The stratified squamous epithelium displays acanthosis, hyperkeratosis, papillomatosis with no downward proliferation of rete ridges. Dense sub-epithelial infiltrate of plasma cells, some lymphocytes and occasional histiocytes was noted. There is no evidence of malignancy. Based on these features a diagnosis of Verrucous Hyperplasia was given.

Discussion

Denture-induced hyperplasia is a reactive lesion arising from excessive and chronic mechanical pressure on the vestibular oral mucosa. It has a female predilection and it is mostly seen in the maxilla. The size of the lesion may be as small as a few millimeters to massive lesion involving the entire vestibule. It is usually asymptomatic but sometimes severe inflammation and ulceration can occur (Firoosmand et al., 2005). The oral verrucous hyperplasia is a premalignant lesion that may transform into an oral cancer. The most common site of verrucous hyperplasia is buccal vestibular mucosa as opposed to study by Shear and Pindborg in which they reported predominant location on gingiva and alveolar mucosa (Greer RO et al., 1990. These sites were in correlation to site of quid placement. The association of Human papilloma virus in development of verrucous hyperplasia was found by Greer R D in 1990 (Sakurai et al., 2000). C-erb B-3 protein expression is an index of malignancy during progression from Verrucous Hyperplasia to Verrucous Carcinoma and Squamous cell carcinoma (Wu et al., 2002). Expression of P53 and EGFR levels could be used as marker while differentiating verrucous hyperplasia from verrucous carcinoma and squamous cell carcinoma. Similarly in our case we found that due to continuous wearing of denture without removal has caused Verrucous hyperplasia. Verrucous hyperplasia which in turn not managed properly can lead to Verrucous carcinoma (Hazarey et al., 2011).

Treatment

Verrucous hyperplasia of the oral cavity is a distinct clinical entity with varied histopathology. A surgical excision with wide margins and an appropriate reconstruction is necessary to optimize the disease and functional outcome (Sadasivan et al., 2012).

Conclusion

Dentures as such won't cause verrucous hyperplasia. But ill fitting dentures, not removing the dentures over a long period and poor oral care can cause irritation, infection and inflammation of the oral mucosa which will lead to premalignant lesions and malignancies (Pranat et al., 2012).

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Research Highlights

Oral verrucous hyperplasia may occur both in smokers and non-smokers.

Verrucous hyperplasia which in turn not managed properly can lead to verrucous carcinoma.

Continuous wearing of denture without removal lead to entrapment of food debris and other substances beneath the denture which has become a source of continuous irritation which in turn can cause Verrucous hyperplasia.

A surgical excision with wide margins and an appropriate reconstruction is necessary to optimize the disease and functional outcome

Limitations

It is quite common for people to wear their dentures all the time without removing. This is the main reason for occurrence of chronic infections, premalignancies and malignancies. Hence this should be avoided.

Recommendations

Clean your dentures every day.

When not in use, keep the denture immersed in water to prevent it from drying out.

Dentures should be taken out daily and soaked for several hours or overnight. This not only keeps dentures clean, but gives the supporting tissues in your mouth a chance to rest.

Brush your dentures to remove all bacteria, plaque and debris.

Conflicts of interest

Nil

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